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SPATIAL DISTRIBUTION OF TRADITIONAL MARKET IN PADANG CITY

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Abstract

This study aims to spatial distribution of traditional markets in Padang City that which consist of: 1) Distribution spatial of traditional market, 2) Spatial patterns of traditional market, and 3) Range pattern of traditional market. Type of this research is descriptive research with spatial analysis technique. Population in this study are all traditional markets in the Padang City. Sample of this study was that all traditional markets in Padang were taken with a sampling technique. That is total sampling where the number of samples is equal to the population. The data analysis technique uses the analysis of the nearest neighbor index and buffer zone. The results of this study were found that: 1) Spatial Distribution of Traditional Markets in Padang City, there are 21 traditional markets spread across 9 Subdistricts: Koto Tengah District, Padang Utara District, Padang Barat District, Padang Timur District, Padang Selatan District, Lubuk Begalung District, Lubuk Kilangan Subdistrict, Kuranji Subdistrict, and Nanggalo Subdistrict, 2) The distribution pattern of traditional markets in Padang City is included in the pattern of uneven distribution (random), 3) Range pattern of traditional markets in Padang City with a radius of 5Km are more likely to focus in the city center or the western and northwestern parts of Padang City.

Keywords: Spatial distribution, Traditional market

A. Introduction

Padang city is the capital of West Sumatra Province. The location geographically Padang City is in 0 ° 44 'and 01 ° 08' LS and at 100 ° 05 'and 100 ° 34' BT. Based on PP No. 17/1980 Padang City has an area of 694.96 km². Administratively, Padang City has eleven regencies and one hundred and four urban villages. Eleven districts that is, Bungus District, Lubuk Kilangan Subdistrict, Lubuk Begalung District, South Padang District, East Padang District, West Padang District, North Padang District, Nanggalo District, District Kuranji, Pauh District, Koto Tangah District (BPS Kota Padang, 2020).

As the capital city of West Sumatra Province, Padang City is area with an economic rate that moves more quickly and forward. Based on West Sumatra economic report data 2019, it was noted that the Human Development Index (HDI) of Padang City reached 82.25% with a very high category compared to other Regencies or Cities in West Sumatra. Based on the report on West Sumatra's economic development (Overview of West Sumatra's GRDP and Regency/City in 2014-2018), Padang city has a major role in the formation of the economy in West Sumatera in 2018. That is because Padang City as the Capital of West Sumatra Province and the center trade and education center. This is indicated by the economic contribution of the city of Padang as much as 24.97% of the economy of West Sumatra Province. For own economic growth, Padang City has the highest economic growth of 6.09% in 2018.

Economic growth of Padang City based on GRDP in the trade sector grew by 6.20% in 2018. Meanwhile based on the economic structure of Padang city in 2018, Padang has been categorized as a trading area. Based on the results of calculations conducted by the GRDP in 2018 on the basis of current prices, it is known that the contribution made by the wholesale and retail trade categories is the biggest from other sectors, amounting to 16.94% in 2019 (BPS Kota Padang, 2020).

The trade center is in Pasar Raya, and is supported by several trade centers and 8 supporting markets that spread throughout the city, 9 of which are managed by the Department of Commerce is Alai Market, Bandar Buat Market, Belimbing Market, Bungus Market, Lubuk Buaya Market, Simpang Haru Market, Siteba Market, Kongsu Land Market, and Ulak Karang Market (Dewi, 2007). Market is the location of face to face sellers and buyers. So that in this activity the process of selling/buying goods and services. The market includes all ties associated with traders and buyers so that an exchange of goods and services occurs (Indrawati, 2014).

The traditional market is a meeting place for sellers and buyers and there is a bargaining process, the market usually has a building consisting of stalls and loans provided by the public or market managers. Usually sells daily staples, namely ingredients such as side dishes, vegetables, etc. In addition, there are those who sell electronic equipment and clothing. This market is often found throughout Indonesia, and generally located in residential areas and densely populated areas making it easier for buyers to go to the market (Indrawati, 2014).

Information about spatial distribution can be solved using spatial analysis in the ArcGIS application and can contain distribution information that affects between one distribution and another. In the spatial data model this is called the spatial effect. Where each location cannot be seen as a single research object and is not bound by other locations, then spatial analysis is needed because each location cannot be seen as an independent research object and is not connected with other regions, spatial analysis is needed as a processor for the influence of relationships between locations (Hadiarta, 2013 in Wahyuningsih, T., 2015).

Distribution can be called with spread out. The intended distribution is a location located in an area under certain circumstances. Distribution of distribution is divided into 3 types, namely (Yunus, 2010 in Ana, 2016):

- 1) Clustering
- 2) Random (Random)
- 3) Regular (Regular).

Distribution patterns found can be in the form of regular patterns (regular), random (random), clustered (clustered). With the discovery of the distribution patterns, it can be seen the comparison between the patterns of distribution between space on the surface of the earth. In this distribution pattern can be analyzed with the nearest neighbors. This analysis requires distance data and the location of a location to be examined.

This closest neighbor makes it easy for researchers to identify obstacles scientifically difficult to overcome. It was concluded that, the pattern of market distribution cannot be known only by field observations, but can be overcome by using the nearest neighbor analysis, so researchers can find out the pattern of the market (Nuryani, 2009).

B. Methodology

1. Research Design

Type of this research is descriptive research with spatial analysis technique. Yusuf argued that descriptive research is a type of research that focuses on any existing problem, or actual/meaningful problem/event, and aims to tell the factual events that existed (as cited in Ana, 2016). Meanwhile, according to Arikunto, as cited in Hermawindo (2018), descriptive research is a type of research used to investigate the situation, atmosphere, etc., the results of which are published in the form of research reports.

2. Instruments

The sample is part of a subject or object that represents the population. Sampling must be in accordance with the quality and characteristics of the population in the study so that the conclusions generated can represent the population (Arikunto, 2006). In this study, the population is all traditional markets located in Padang City. Padang City has 21 traditional markets, among them 1 parent market, 8 auxiliary markets and 12 satellite markets.

Table 1. List of Traditional Markets in Padang City

No.	Sub districts	Market Name	Manager
1	Padang Barat	Pasar Raya	Government
2	Padang Barat	Pasar Tanah Kongsu	Government
3	Padang Utara	Pasar Ulak Karang	Government
4	Padang Utara	Pasar Alai	Government
5	Padang Timur	Pasar Simpang Aru	Government
6	Nanggalo	Pasar Nanggalo	Government
7	Koto Tengah	Pasar Lubuk Buaya	Government
8	Lubuk Kilangan	Pasar Bandar Buat	Government
9	Kuranji	Pasar Belimbing	Government
10	Kuranji	Pasar Balai Baru	Public
11	Kuranji	Pasar Lubuk Lintah	Public
12	Koto Tengah	Pasar Balai Gadang	Public
13	Koto Tengah	Pasar Tabing	Public
14	Koto Tengah	Pasar Parak Manggis	Public
15	Koto Tengah	Pasar Pasir Jambak	Public
16	Koto Tengah	Pasar Tunggul Hitam	Public
17	Padang Utara	Pasar Gn. Sago	Public
18	Padang Selatan	Pasar Gaung	Public
19	Lubuk Kilangan	Pasar Indarung	Public
20	Lubuk Begalung	Pasar Parak Laweh	Public
21	Padang Barat	Pasar Purus	Public

Sources: Department of trade and field observation (2019)

This study uses total sampling, which is the whole of the population taken as a sample. In this case all the traditional markets in Padang city, amounting to 21 markets. Then the researcher will take a sample of 21 traditional markets in the city of Padang. Variables and indicators in this study are:

1. Traditional Market Spatial Distribution

Spatial distribution is defined as spatial distribution. Distribution is the position of an object which is located somewhere and not in a certain location. With market location and market classification indicators.

2. Patterns of traditional market spatial distribution.

Namely analyzing a distance and land use to determine the existence of the place to be addressed. With indicators of distance and traditional market spatial patterns.

3. Spatial reach of traditional markets

Namely analyzing a range and area to determine a pattern that affects the spatial distribution. With indicators on the area of service coverage and area.

3. *Technique of Data Analysis*

Data analysis was performed in accordance with the research problem outlined. Market distribution data that has been surveyed to the field and from the Padang City Trade Office is processed using ArcGIS 10.1 through the following stages:

1. Spatial Analysis

Analyze data for the first purpose with Map analysis using ArcGIS 10.1

- Plotting coordinate points in each market in Padang using GPS
- Entering the coordinates of the ArcGIS 10.1 Software
- Make a map of the market distribution in the city of Padang

a. Analysis of Nearby Neighbors

To determine the pattern of market distribution the closest neighbor analysis is used, as follows:

$$T = \frac{ju}{jh}$$

Explanation:

T = Distribution index of neighboring neighbors

ju = The distance measured between a point and its nearest neighbor

jh = The distance obtained if all the points have a random pattern

$$jh = \frac{1}{\sqrt[2]{p}}$$

P = Density of points in each km² i.e. number of points (N) divided by area (A)

To do this analysis several steps are carried out, namely:

1. Determine the boundaries of the area under study
2. Change the pattern of object distribution into point distribution patterns
3. Give a name to each point
4. Measuring the closest distance, that is, the distance in a straight line between one point and another point that is the nearest neighbor.

The distribution of certain spatial or regional patterns is:

1. <1: Cluster
2. 1-2.15: random
3. > 2.15: Regular (Regular) Source: (Bintarto in Nuryani, 2009)

b. Spatial Buffer Zone Analysis

At this stage we need to identify the theories and procedures needed to model reality as a whole. Spatial Analysts and other software provide various types of tools that are intended to model the phenomenon as a whole. Illustration of the Symmetrical Difference tool is shown in the picture

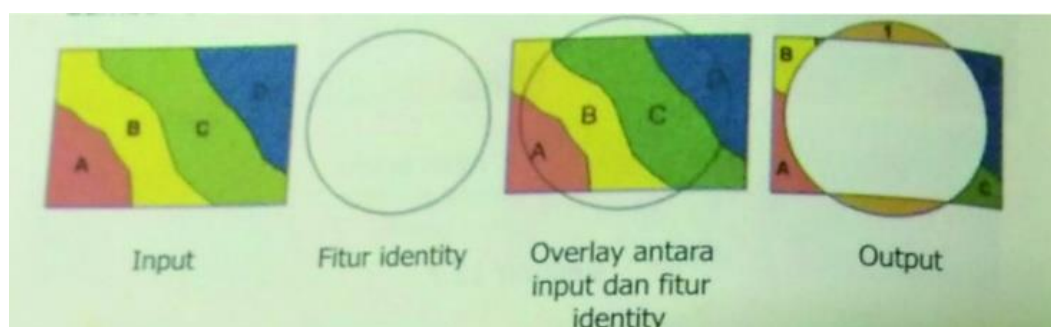


Figure 1. Symmetrical Difference
Sources: (Indarto & Faisol, 2013)

Buffering is used to create polygons from a feature at a certain distance. The illumination of the buffer tool is shown in the figure:

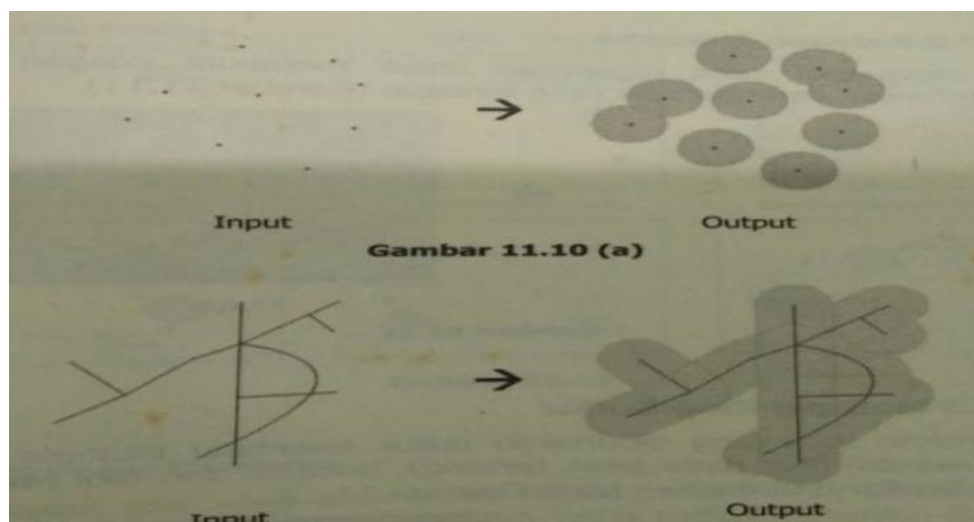


Figure 2. Buffer

Sources: (Indarto & Faisol, 2013)

C. Findings and Discussion

1. Findings

1.1. Distribution spatial of traditional market

Based on field research in 11 Sub-districts of Padang City, only 9 Sub-districts have traditional markets and there are 21 traditional markets, including 9 markets managed by the government and 12 markets managed by local communities. Markets in Padang City are managed by several managers, namely the government and community groups. where the market is. There are 9 markets managed by the government, namely Raya Market, Kongs Land Market, Ulak Karang Market, Alai Market, Simpang Haru Market, Nanggalo Market, Lubuk Buaya Market, Bandar Buat Market and Belimbing Market. While the market is managed by community groups 5 namely Balai Baru Market, Lubuk Lintah Market, Balai Gadang Market, Tabin Market, Parak Manggis Market, Pasir Jambak Market, Tunggul Hitam Market, Gunung Sago Market, Gaung Market, Indarung Market, Parak Laweh Market and Purus Market.

The market in Padang City has different operating hours, the intended operating hours are the operating hours of the market. The markets that operate from 06.00 - 20.00 are Pasar Raya, while the markets that operate at 06.00 - 18.00 are Tanah Kongs Market, Ulak Karang Market, Alai Market, Simpang Haru Market, Nanggalo Market, Lubuk Buaya Market, Bandar Buat Market and Belimbing Market, while the market that operates at 06.00 - 14.00 is Gaung Market, and the last market that operates at 06.00 - 12.00 is Balai Baru Market, Lubuk Lintah Market, Balai Gadang Market, Tabin Market, Parak Manggis Market, Pasir Jambak Market, Tunggul Market Black, Gunung Sago Market, Indarung Market, Parak Laweh Market and Purus Market.

Table 2. Spatial distribution of traditional market in Padang City

Number	Sub district	Market	Location	Coordinate
1	Padang Barat	Pasar Raya	Jl. Kp. Jao Dalam	0°56'56,30"S 100°21'35,75"E
		Pasar Tanah Kongs	Kp. Pondok	0°57'35,20"S 100°21'42,06"E
		Pasar Purus	Rimbo Kaluang	0°55'38,03"S 100°21'05,30"E
2	Padang Utara	Pasar Ulak Karang	Jl. S. Parman	0°54'41.57"S 100°21'1.46"E
		Pasar Alai	Jl. Raya Ampang	0°55'32,40"S 100°22'1,29"E

		Pasar Gn. Sago	Jl, Gn Sago Alai Timur	0°55'16.12"S 100°21'55.89"E
3	Padang Timur	Pasar Simpang Haru	Jl. Ps. Simpang Haru	0°56'36,84"S 100°22'32,47"E
4	Nanggalo	Pasar Nanggalo	Jl. Raya Siteba	0°53'50.69"S 100°22'5.75"E
5	Koto Tangah	Pasar Lubuk Buaya	Jl. Adinegoro	0°49'95,16"S 100°19'64,42"E
		Pasar Pasir Jambak	Pasir Jambak	0°50'99,15"S 100°19'57,30"E
		Pasar Tabing	Jl. Raya Simpang Tabing	0°51'56.64"S 100°20'35.39"E
		Pasar Balai Gadang	Balai Gadang	0°50'17.37"S 100°21'31.88"E
		Pasar Parak Manggis	Jl. Bhakti Parupuk Tabing	0°52'29.53"S 100°20'41.28"E
6	Lubuk Kilangan	Pasar Tunggul Hitam	Jl. Utama Dadok	0°52'28.88"S 100°21'55.32"E
		Pasar Bandar Buat	Jl. Raya Padang-Solok	0°56'57.93"S 100°26'8.14"E
		Pasar Indarung	Jl. Raya Indarung	0°57'14.11"S 100°28'32.53"E
7	Kuranji	Pasar Belimbing	Jl. Pepaya, Belimbing Raya	0°53'93,12"S 100°25'16,93"E
		Pasar Lubuk Lintah	Jl. M. Yunus	0°55'64,24"S 100°23'27,99"E
		Pasar Balai Baru	Balai Baru	0°54'4.78"S 100°23'47.11"E
8	Padang Selatan	Pasar Gaung	Jl. Makassar, Tl. Bayur	0°59'31.78"S 100°22'58.58"E
9	Lubuk Begalung	Pasar Parak Laweh	Jl. Parak Laweh	0°58'0.44"S 100°23'29.93"E

Source: Field Research (2019)

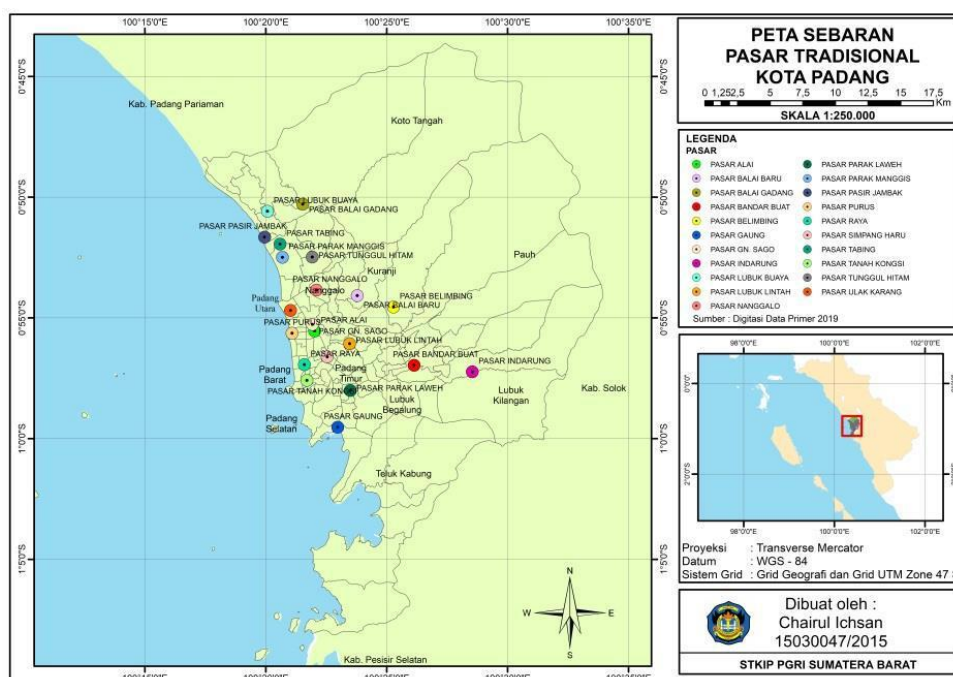


Figure 3. Map of Traditional Market Distribution in Padang City

Source: secondary data analysis (2019)

1.2. Spatial patterns of traditional market

To find out the traditional market patterns in Padang city, can see it from the following table about distance between traditional markets in each region.

Table 3. Distance between traditional markets in each region

Number	Market	Distance on the field (m)	Scale	Distance of map (cm)
1	Pasar Lubuk Buaya – Pasar Balai Gadang	3.560	1:250.000	1,424
2	Pasar Lubuk Buaya – Pasar Pasir Jambak	1.931	1:250.000	0,772
3	Pasar Pasir Jambak – Pasar Tabing	2.626	1:250.000	1,050
4	Pasar Tabing – Pasar Parak Manggis	1.025	1:250.000	0,409
5	Pasar Parak Manggis – Pasar Tunggul Hitam	2.292	1:250.000	0,916
6	Pasar Tunggul Hitam – Pasar Nanggalo	2.522	1:250.000	1,008
7	Pasar Nanggalo – Pasar Balai Baru	3.163	1:250.000	1,265
8	Pasar Balai Baru – Pasar Belimbing	2.620	1:250.000	1,048
9	Pasar Nanggalo – Pasar Ulak Karang	2.517	1:250.000	1,006
10	Pasar Ulak Karang – Pasar Gn Sago	1.973	1:250.000	0,789
11	Pasar Gn Sago – Pasar Alai	533	1:250.000	0,213
12	Pasar Ulak Karang – Pasar Purus	1.702	1:250.000	0,680
13	Pasar Purus – Pasar Alai	1.731	1:250.000	0,692
14	Pasar Alai – Pasar Lubuk Lintah	2.336	1:250.000	0,934
15	Pasar Lubuk Lintah – Pasar Simpang Haru	2.228	1:250.000	0,891
16	Pasar Simpang Haru – Pasar Raya	1.853	1:250.000	0,741
17	Pasar Raya – Pasar Tanah Kongs	1.215	1:250.000	0,486
18	Pasar Tanah Kongs – Pasar Parak Laweh	3.419	1:250.000	1,367
19	Pasar Parak Laweh – Pasar Gaung	2.969	1:250.000	1,187
20	Pasar Parak Laweh – Pasar Bandar Buat	5.263	1:250.000	2,105
21	Pasar Bandar Buat – Pasar Idarung	4.483	1:250.000	1,793
Total		51.961		20,776
Rate		247.433		98,933

Sources : Primary Data Processing (2019)

Based on the analysis of the nearest neighbor market distribution patterns traditionally in the city of Padang tend to be random/scattered (random), more located near the highway and the center of the crowd.

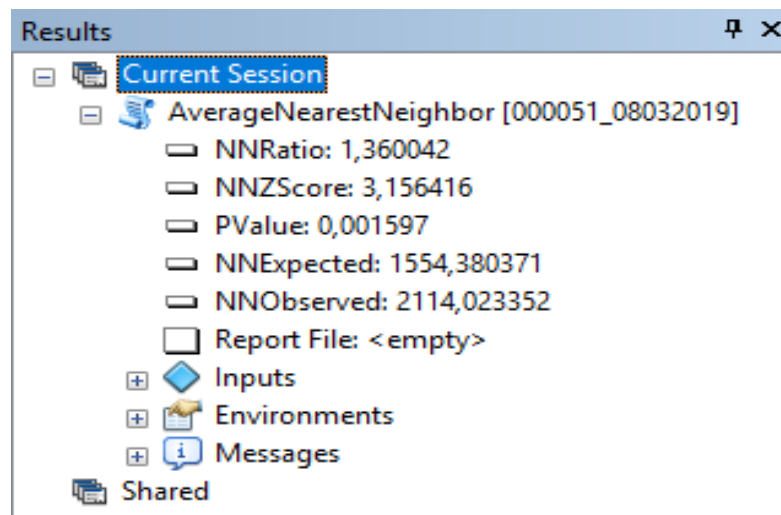


Figure 4. Results of Nearest Neighbor Analysis
Sources: The results of primary data analysis
using Arc View 10.1 program (2019)

According to Nuryani (2009), the known distribution patterns are regular, random, clustered. In this way to compare several patterns of distribution can be processed perfectly, not only in terms of time but also in terms of space. This method is meant by analysis of the nearest neighbor. Based on the analysis of the nearest neighbors, it can be seen that the tendency of traditional market distribution patterns in Padang City is more evenly distributed (random) ($T = 1,360$).

1.3. Range pattern of traditional market

To find out how far the reach of traditional markets serves the surrounding area, a buffer zone analysis is used. Buffer analysis can find out which areas are captured by each market according to the radius that has been determined, for example every traditional market point in the city of Padang is buffered with a radius of 5 Km so that it can be seen which areas have markets and do not have markets. The reasons why researchers took a 5 Km radius are:

- 1) Viewed from the psychological side, people will reach / go to a place (market) that is not too far away, but if a place occupied does not have a market, then that person will go to the nearest neighboring market. The use of a range with a radius within this psychological side, where people will easily determine which market to go to.
- 2) Viewed from the real side of the field, researchers took a radius of 5 Km because in one district has a large area so that if it does not take a radius of 5 Km then one area is not reached. It can be exemplified from the lubuk crocodile market, an auxiliary market that is managed directly by the government and is in the middle of the Koto Tangah District, with a radius of 5 Km in the Koto Tangah area affordable by the lubuk crocodile market.
- 3) Judging from the nearest neighbors, a market that is included in the category of not open every day will not be able to meet the daily needs of the surrounding community and subdistricts that do not have a market will also not meet the needs of the community, so researchers take a radius of 5 Km because radius 5 Km can cover neighboring markets and markets, for example the indarung market - Bandar Buat market, gaung market - kabung bay sub-district, Bandar pasar - for pauh sub-district, belimbing market - pauh sub-district. It can be concluded that Padang City has a fairly

wide area and has an unevenly spread market, to reach a market requires a radius of 5 Km. More details can be seen on the following map:

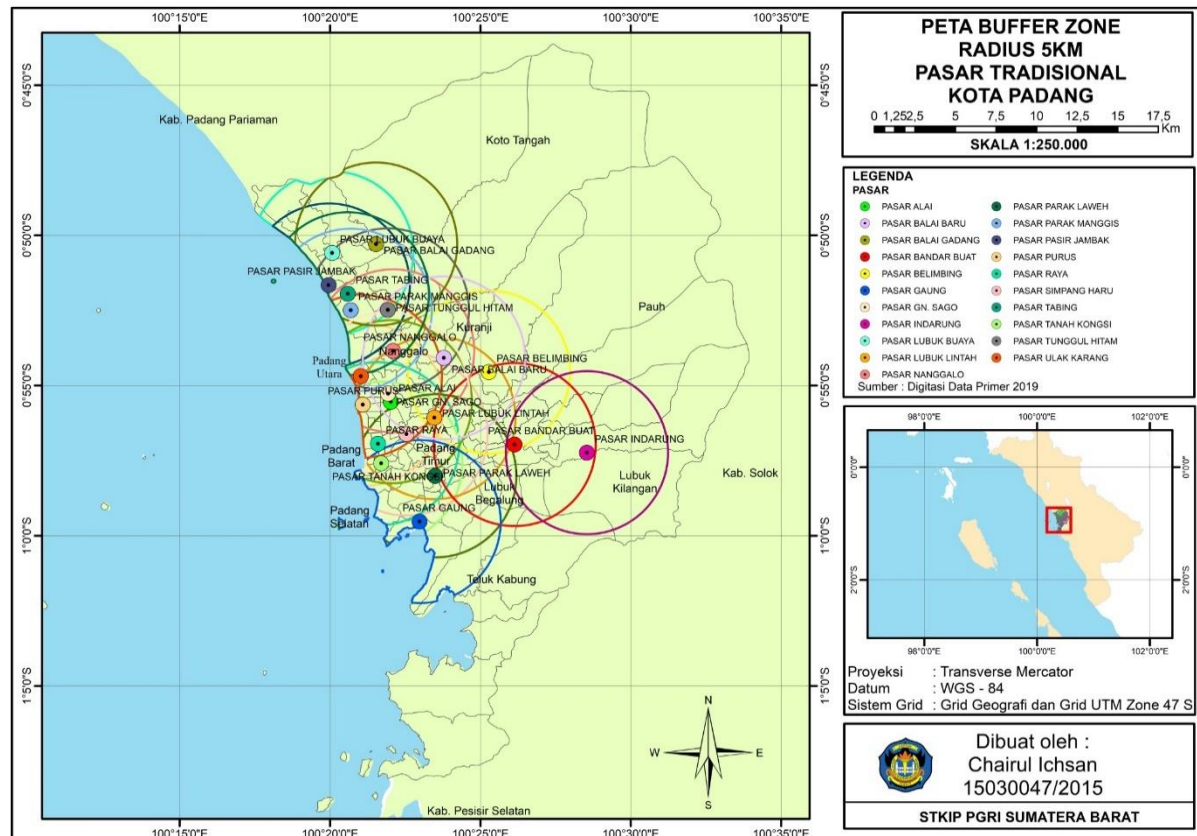


Figure 5. Map of Buffer Zone of Traditional Market in Padang City

Sources: Secondary data analysis (2019)

From the buffer map above it can be seen that each market with a radius of 5 km is more likely to focus on the city center or the western and northwestern parts of the city of Padang. But in the suburbs of Padang City does not have a market that is affordable by the region, so the local community will tend to shop to the nearest market place, such as Gaung Market (Padang Padang District), Belimbing Market (Kuranji Market), Bandar Buat Market (Lubuk Kilangan District), and Lubuk Buaya Market (Koto Tangah District). However, there are not many people who shop at Indarung Market because the Indarung market is only open on Thursdays and Sundays.

2. Discussion

Traditional market is a transaction room marked by a very thick village economic atmosphere. Traditional Market, namely the location of negotiating a transaction of goods or services, so that the traditional market usually begins with a price bargaining process.

Based on the first research objective, Padang City has 21 traditional markets spread across 9 sub-districts, but in 2 sub-districts namely Pauh sub-district and Teluk Kabung sub-district there is no market in this sub-district, according to the local community, in Pauh sub-district people prefer the Bandar Buat market to buy daily staples and in Teluk Kabung Subdistrict, the community prefers the echo market to buy their daily needs. The number of traditional markets in each district in the city of Padang varies, because it is influenced by the area of the district and the population so that in the Koto Tangah district with a population in 2017 according to (BPS, Padang City in Figures 2018) amounted to 189,791 people who have 6 markets, whereas in West Padang sub-district whose population in 2017 according to (BPS, Kota Padang in Figures 2018) amounted to 46,010 people who have 3 traditional markets because in this

district the trading center and the wholesale market place are the main markets in the Padang Barat sub-district.

According to (Irwansyah, 2013) Spatial distribution can be analyzed with the Geographic Information System, which is a system created to view, search, manipulate and analyze all types of geographic data.

The results of this study are in accordance with the results of the study (Ana, 2016), namely: Home industries in the District of East Padang are generally located in all existing Kelurahan, the largest number of household industries are in Jati Village, 19 units, then Kubu Dalam Parak Karakah District totaling 14 fruit, Andalas 7 units, then Sawahan and Kubu Marapalam Districts as many as 6 pieces, Kelurahan Parak Gadang Timur and Simpang Haru as many as 5 industries, Kelurahan Gantik Parak Gadang and Jati Baru as many as 4 units and Kelurahan Timur Sawahan Timur as many as 2 units. The distance between home industries is generally 200-500m.

The equation of the results of this study can be seen from the same coordinate search system from all research areas. Because distribution is spatial and spatial, that is spatial, so spatial distribution can be seen and known from the coordinate search system, such as using Google Earth Pro or using the coordinate search system that is available on the Android platform. Making it easier for researchers to know the location of the distribution point to be examined.

Based on the results of research on the second goal, Traditional Market Spatial Distribution Patterns in Padang City analyzed by nearest neighbor analysis shows the tendency of traditional market distribution patterns in Padang City to be more evenly distributed (random) ($T = 1,360$), it is known that the value of T is obtained which is between 1 - 2.15 (1,360) with the category of uneven distribution (random). This was obtained from the results of manual data processing measured on the map of traditional market distribution points in the city of Padang and digital software ArcGIS 10.1.

According to (Nuryani, 2009), the known distribution patterns are regular, random, clustered. In this way to compare the distribution patterns can be done perfectly, not only in terms of time but also in terms of space. This method is called nearest neighbor analysis. Analysis like this requires data about the distance between one object and the nearest neighbor object. In essence, the analysis of the nearest neighbor can solve natural problems that have not been resolved. It can be concluded that, the pattern of market distribution cannot be known only by field observations, but can be overcome by using the nearest neighbor analysis, so that researchers can find out the market pattern.

The results of this study are in accordance with the results of the study (Pitaloka & Prakoso, 2016), namely: The distribution of modern markets is known by using the nearest neighbor analysis technique available in ArcGIS software. Market data in the form of market location points included in the ArcGIS software can be processed automatically using the analysis tools Average Nearest Neighbor to produce output in the form of statistical data showing modern market patterns that are grouped, random, or evenly distributed. With this automated process, the results can be more accountable. Based on the value obtained in the calculation shows that the T value is 0.649. Based on these values it can be seen that the value of T is included in the category $T = <1$ which shows that the pattern of distribution of modern markets in the city of Jambi is clustered.

The equation of the results of this study can be seen from the analysis used, namely the analysis of the nearest neighbor (Average Nearest Neighbor). Because the analysis of the nearest neighbor can find out directly the pattern of the points of distribution in the meticulous. And seen from the results of the analysis of the nearest neighbor that is the value of $T = 1.360$ patterned unevenly distributed, if you look at the facts that exist in the field of Padang geographically surrounded by the sea to the west and the hills to the east, so that the market distribution in the city of Padang is spread evenly in 9 districts of Padang city, and more centrally to the western area of Padang city. And the analysis of this nearest neighbor can make it easier for researchers to find out the distribution patterns of traditional markets spread across several districts in the Padang city.

In the third research result, which is knowing the pattern of traditional market service coverage in each district in Padang city, it was found that the buffer zone analysis that has been processed through ArcGIS 10.1, can be seen that each market with a radius of 5 Km is more likely to focus on the city center or part west and northwest of Padang City. But in the suburbs of Padang City does not have a market that is affordable by the region, so the local community will tend to shop to the nearest market place, such as Gaung Market (Padang Padang District), Belimbing Market (Kuranji Market), Bandar Buat Market (Lubuk Kilangan District), and Lubuk

Buaya Market (Koto Tengah District). However, there are not many people who shop at Indarung Market because the Indarung market is only open on Thursdays and Sundays.

According to Ullman in Yulianidar, (2012) said that the range of services has certain area limits in accordance with the ability of the service center. The boundaries of the market area, namely:

- a. Real boundary, which is the boundary that should and actually must be controlled or served by the service center.
- b. Inner boundary, namely the boundary of the market area which is further from the real boundary.
- c. The ideal limit is the farthest reach of the service area.

The results of this study are different from the results of Nurliyana's research, (2016) namely: Modern retailers are able to serve most areas in Banyumanik District with a service radius of 2 km. Areas that are not fully served are Kelurahan Tinjomoyo and Kelurahan Jabung because access to the nearest modern retail is quite difficult. This is due to the fact that the Tinjomoyo and Jabung sub-districts are located on the morphology of the rough, winding and hilly roads.

The difference in this research can be seen from the different road access and morphology, because in the study area (Nurliyana, 2016) only covers a radius of 2 Km only because the Tinjomoyo and Jabung Kelurahan areas are located on rough and winding road morphology. But in the Padang City area, researchers took a 5 Km radius because:

- 1) Viewed from the psychological side, people will reach/go to a place (market) that is not too far away, but if a place occupied does not have a market, then that person will go to the nearest neighboring market. The use of a range with a radius within this psychological side, where people will easily determine which market to go to.
- 2) Viewed from the real side of the field, researchers took a radius of 5 km because in one district has a large area so that if it does not take a radius of 5 km then one area is not reached. It can be exemplified from the lubuk crocodile market, an auxiliary market that is managed directly by the government and is in the middle of the Koto Tengah District, with a radius of 5 km in the Koto Tengah area affordable by the lubuk crocodile market.
- 3) Judging from the nearest neighbors, a market that is included in the category of not open every day will not be able to meet the daily needs of the surrounding community and subdistricts that do not have a market will also not meet the needs of the community, so researchers take a radius of 5 Km because radius 5 Km can cover neighboring markets and markets, for example the indarung market - Bandar Buat market, Gaung market - Teluk Kabung sub-district, Bandar Buat market - for Pauh sub-district, Belimbing market - Pauh sub-district.

D. Conclusion

Based on the results of research studied so that researchers concluded, in Padang City has 21 traditional markets in 9 districts and 3 market classifications that is; market managers, operating hours and operational days. According to the analysis of the nearest neighbors processed from ArcGIS software 10.1 can be known by the market traditionally spread in the City scattered patterned fields do not evenly (random) and more is near the center crowd. And based on analysis buffer zone that has been processed through ArcGIS 10.1 software, you can see that every market with radius of 5 km more likely center on the city center or the western and northwestern parts of the City Padang.

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